Ham-Digital Digest   Sat, 23 Apr 94   Volume 94 : Issue 126

Today's Topics:
                          486cpu RFI Problems
      ftp mail server source for ax.25 for LINUX operating system?
                    Need Poor Man's Packet Article!
                     On-Air Encryption?.. (2 msgs)
                 Ottawa PI and PI2 driver for Linux
            Running Pactor and GTOR on the Same BBS Port
                            TAPR Radio
                      TI 320C26 DSP Eval Kit
                           Unsubscribe
                             WEFAX
            Who is ordering GPS receivers from Motorola?

Send Replies or notes for publication to: <Ham-Digital@UCSD.Edu>
Send subscription requests to: <Ham-Digital-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Digital Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-digital".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

>DATE: Sun, 17 Apr 1994 13:37:50 GMT
>FROM: J.D. Cronin <jdc3538@ultb.isc.rit.edu>
>
>In article <2975456864.6.p00123@psilink.com> p00123@psilink.com writes:
>>Probably the biggest factor is to have a computer that is FCC type B

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>>approved for RFI.  Type B is the more stringent standard.
>>
>>Type A is not approved for use in the home or for sale for home use.
>>
>>-Seth
>
>A FCC type approval sticker is meaningless.  I purchased a mailorder
>486 DX2/66 PC, which emitted gobs of RFI from its unshielded
>plastic case, keyboard and monitor.  I complained to the local FCC
>field office, who directed me to the FCC BBS.  (Don't have the
>number handy, call your local field office.)
>
>The registration number was 2 or 3 years old, for a 25 mhz 386
>machine.  It didn't specify the type of cabinet, keyboard or monitor.
>
>Your options are:
>- Purchase reputable brand names.  Look for a decent quality cabinet.
>The plastic front piece should have a metal coating on the inside.
>Also look for spring contacts to ground that metal coating to the rest
>of the case.
>
>- Complain to the FCC.  They probably can't help, but remaining silent
>means you accept the situation as it is.
>
>- Fix the PC yourself.  You have to do this anyway if you're into
>digital modes that require the PC and radio to be in close proximity.
>
>73...Jim
>N2VNO

I bought a mail-order 486DX2/50, but I checked first when I ordered it
about not only the Type-B rating, but the metal case.  From what I could
determine over the phone, it sounded good.  It was good.  I have the PC
literally right next to the radios (HF and VHF) and have no problems,
even on the digital modes.  I did not have to do anything to chase RFI.
I do have things grounded.

I don't know why anyone would keep a machine that is such a problem,
unless you have the time and inclination to go through all that...  If
it's too noisy, send it back.  After all, it's a big investment and
you're gonna have to live with it.

-Seth

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Date: 20 Apr 94 16:12:47
From: idacrd.ccr-p.ida.org!idacrd!n4hy@uunet.uu.net
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Subject: ftp mail server source for ax.25 for LINUX operating system?
To: ham-digital@ucsd.edu

The GW4PTS AX.25 Package is available via anonymous ftp on sunacm.swan.ac.uk
in the /pub/Linux/Radio directory.

Bob
--
Robert W. McGwier | n4hy@ccr-p.ida.org Interests: ham radio,
Center for Communications Research | scouts, astronomy, golf (o yea, & math!)
Princeton, N.J. 08520 | ASM Troop 5700, ACM Pack 53 Hightstown
(609)-279-6240(v) (609)-924-3061(f)| I used to be a Buffalo . . . NE III-120

Date: 22 Apr 94 01:54:15 GMT
From: wri!pea@uunet.uu.net
Subject: Need Poor Man's Packet Article!
To: ham-digital@ucsd.edu

Does anyone have a copy of the August 1991 73 Magazine
Poor Man's Packet article that ran on pages 8-14?? If
you do, would you please consider faxing me a copy??

I have the pmp11 program that I've been tinkering with,
but evidently there is some info in this article I need
to get the program up and running. And, unfortunately,
none of my local libraries have the back issue any longer.

My fax number is: 217-359-1761

Thank you for your help!

Bruce

Date: Wed, 20 Apr 1994 18:32:59 GMT
From: ihnp4.ucsd.edu!galaxy.ucr.edu!library.ucla.edu!csulb.edu!csus.edu!
netcom.com!dfajardo@network.ucsd.edu
Subject: On-Air Encryption?..
To: ham-digital@ucsd.edu

Richard Whittaker (rwhittak@docwhitehoorse.doc.ca) wrote:
: Greetings from Whitehorse!..

: I've been working with the DOC on a project to use digital radio in disaster
: situations to connect with the Internet via RF links...

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<text deleted>
:.... although they raised
: the question of security of the data stream between the remote site (the
: on-scene packet station), and the dish. This link would be made on
: pre-determined "commercial" frequencies, so the question arose as to what
: encryption schemes there were to bolster security of information passing
: over the air... Does any such scheme currently exist, and if so, where would
: one find it and how good is it?.. Any information would be of great
: assistance...
 There is a serious question of what is being protected, and what level
of protection is desired. If you simply dont want the media or the casual
public listening in on city operations, you could use something like
PGP to encrypt each message (I don't know where it is currently archived,
but you could find it easily with GOPHER). A LOT of people on the internet
use it. This would require the originator of the mesage encoding the
message before sending it.

   If your reasons for needing security go beyond this level, then I suspect
the answer is no, and it probably can't be done in a secure fashion
without getting some kind of crypto gear. (Beware of the DES trap; DES
can't be implemented in software and still be in compliance with the
spec - software implementationsof DES are dis-allowed!).

   Because Amateur radio is not allowed to use encryption, no development
of hardware for this purpose has been done to the best of my knowledge.

Good Luck!

Doug Fajardo                        Sysop, LABBS  (CA0199@CAWG.PAR)
dfajardo@netcom.com                 Asst. CAWG Packet Cord. (South)
Eagle 249 (CAP)                     Squadron 35 Com Officer (Pacoima, CA)
WB6KNY (HAM)                        chief Cook and bottle washer, too!
CA0249@CA0199.PACR.CAWG(Packet)     Phone(Voice): (818) 985-841

--

Doug Fajardo                        Sysop, LABBS  (CA0199@CAWG.PAR)
dfajardo@netcom.com                 Asst. CAWG Packet Cord. (South)
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WB6KNY (HAM)                        chief Cook and bottle washer, too!
CA0249@CA0199.PACR.CAWG(Packet)     Phone(Voice): (818) 985-841

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Date: Tue, 19 Apr 1994 09:26:59 -0400
From: ihnp4.ucsd.edu!swrinde!elroy.jpl.nasa.gov!ncar!asuvax!pitstop.mcd.mot.com!
mcdphx!schbbs!mothost!lmpsbbs!NewsWatcher!user@network.ucsd.edu
Subject: On-Air Encryption?..
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To: ham-digital@ucsd.edu

In article <1994Apr16.173958.2447@clark.dgim.doc.ca>,
rwhittak@docwhitehoorse.doc.ca (Richard Whittaker) wrote:

> Greetings from Whitehorse!..
>
> I've been working with the DOC on a project to use digital radio in disaster
> situations to connect with the Internet via RF links to router stations with
> satellite dishes scattered around the territory. We've demonstrated the
> effectiveness of this system to "the powers that be", although they raised
> the question of security of the data stream between the remote site (the
> on-scene packet station), and the dish. This link would be made on
> pre-determined "commercial" frequencies, so the question arose as to what
> encryption schemes there were to bolster security of information passing
> over the air... Does any such scheme currently exist, and if so, where would
> one find it and how good is it?.. Any information would be of great
> assistance...
>
> Thanks in advance..
>
>   Cheers,
>   Rich W.
> --
> Richard Whittaker: Snailmail: 1102 Pine St, Whitehorse YT Y1A 4E8
>   Internet E-Mail: rwhittak@orion.docwhitehorse.doc.ca
> Geographic Coords: 60 Deg., 45', 53" N., 135 Deg., 7', 17" W.
>   Amateur Radio: VY1RW, VY1RW@VY1DX, VY1RW@VY1BBS, 145.010 MHz

Once we get beyond the old adage "Never answer a question with another
question," the first question I ask is the working definition of "security"

in line 5 of your query. Are you/they trying only to guarantee message
integrity (that what is received is what was sent), are they concerned with
authentication (that the entire message was not sent by or received by
other than the named parties), are they worried about some casual listener
eavesdropping and disclosure to the public, or are they planning to occupy
Internet/UseNet with militarily classified or secret messaging? The answer
to this question will at least define the starting point and weed out
methods
which may be inadequate for the task at hand.

The integrity issue is easily handled by using robust error-checking data
protocols over the RF channels. This is quite common over commercial HF,
but don't expect any great throughput on HF, especially with band
conditions
like they were for the last week! The authentication issue probably should
involve a PGP system. Casual eavesdropping is as much a problem on Internet

as it is on HF radio, since anyone can watch all the packets go by if they
choose. The military security issue and serious encryption of the message
contents can easily be handled using products and techniques currently
available to those agencies through their normal procurement channels,
albeit at rather high price tags for the mission you have described.

FLAME ON! - The public and private sources who fund the various national
relief organizations and their regular operations charter them to deliver
assistance to affected areas in times of need. Relief agencies who are more

worried about the encryption of their operational data than getting
emergency
relief into the field during natural disasters are not providing the
services
to those who need them, but to themselves instead by diverting funds from
the intended use.

--
Karl Beckman, P.E.   < STUPIDITY is an elemental force for which >
Motorola Comm - Fixed Data < no earthquake is a match. -- Karl Kraus >

The statements and opinions expressed here are not those of Motorola Inc.
Motorola paid a marketing firm a huge sum of money to get their opinions;
they have made it clear that they do not wish to share those of employees.

Amateur radio WA8NVW @ K8MR.NEOH.USA.NA   NavyMARS VBH @ NOGBN.NOASI

Date: Wed, 20 Apr 1994 18:51:55 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!cs.utexas.edu!utnut!nott!cunews!
news@network.ucsd.edu
Subject: Ottawa PI and PI2 driver for Linux
To: ham-digital@ucsd.edu

Announcing the Ottawa PI and PI2 card driver for Linux

This driver was designed for use with the AX.25 kernel support from
Alan Cox (version ALPHA 017). It works with kernels supporting NET3
(1.1.5 and higher). This is the first generally available ALPHA release,
and there are some restrictions, explained in the README.

If you are unfamiliar with the Ottawa PI2 synchronous interface card
for amateur radio, send mail with any subject/body to:

pi-info@hydra.carleton.ca

The latest driver versions (currently at 0.5 ALPHA) are available
for anonymous ftp from from hydra.carleton.ca, in

/pub/hamradio/packet/tcpip/linux

Dave
va3dp

--
Dave Perry | Any opinions stated here are mine
dp@hydra.carleton.ca | and have nothing to do with Carleton University
va3dp@ve3jf.#eon.on.noam |

Date: 22 Apr 94 02:25:49 GMT
From: dog.ee.lbl.gov!agate!howland.reston.ans.net!usenet.ins.cwru.edu!
cleveland.Freenet.Edu!ag807@ucbvax.berkeley.edu
Subject: Running Pactor and GTOR on the Same BBS Port
To: ham-digital@ucsd.edu

SB HF @ WW < NO8M $62887_NO8M
Both Pactor/GTOR On BBS Port (1/2)
R:940420/1604z 62887@NO8M.#NEOH.OH.USA.NA

RUNNING KAM PACTOR AND GTOR ON THE SAME BBS PORT

Real time observations have shown that GTOR is twice as fast as
Pactor on a 80 meter path. Although we have not been able to check
the performance from different locations (but will from many
locations soon), it is apparent that GTOR will be superior to
Pactor.

The availability and popularity of Kantronics TNCs is quite limited
outside of the United States. BBS support of both Pactor and GTOR
would be an advantage. In fact, until some further support of GTOR
is made by equipment suppliers shipping outside of the United
States, Pactor has to be supported.(1)(2)

      (NOTE 1: Not all people have Internet or a good VHF support
      network. I have many DX stations who use the BBS who do not
      have access to the Internet. Contrary to what some people
      (those who are opposed to HF forwarding) would like you to
      believe, transferring information to South America via VHF
      nodes is not quite possible yet.)

(NOTE 2: It appears that a number of BBS software packages
    will offer support for GTOR. None have been released yet
    although one is obviously in beta.)

Two KAMs were run in parallel by running the radio port lines in
parallel. Running these to a Kenwood TS-450 showed that dual
porting will not work in the FSK mode. The KAM uses a simple
transistor switch to hold the FSK line low unless a toggle is
required. Rather than reverse engineer that, a change to AFSK was
made.(3)

    (NOTE 3: Two virtually identical HF MSYS BBS systems were
    tested over a long period of time from many locations under
    many conditions. One system was operated with FSK and the
    other with AFSK. If there was a difference between FSK and
    AFSK, it was so slight that it was not measurable. AFSK is
    fine.)

Once the radio was run to the two KAMs, an immediate problem
surfaced. Pactor operation on 3632.1 Mhz. (which is 3630 mark to
a FSK radio) worked fine. A switch to Pactor showed the radios
were not tuned to the same frequency.

/EX
SB HF @ WW < NO8M $62888_NO8M
Both Pactor/GTOR On BBS Port (2/2)
R:940420/1604z 62888@NO8M.#NEOH.OH.USA.NA

After a bit of experimentation and calculation, we came up with the
following two setup files for the TNCs.

For the GTOR KAM: For the Pactor KAM:

<control-c>x   <control-c>x
<control-c>d   <control-c>d
<control-c>d   <control-c>d
pbbs 0   pbbs 0
intf term   intf term
xflow off   xflow off
flow off   flow off
crsup off   crsup off
prekey 0   prekey 0
pthuff on   pthuff on
pmode gtor   pmode pactor
delete 0   delete 0
echo off   echo off

```
gterrs 80          space 2295
space 2295         mark 2095
mark 2095          shift modem
shift modem        pactor
gtor
```

Now either KAM can seize the radio and respond.

THE IDEAL NEXT STEP:

It seems like all the pieces are in the KAM to allow it to
recognize a connect from any HF mode. Whether it has the
horsepower to do that kind of operation may be the problem. Using
the GSCAN function, an external program could be written to monitor
the port, determine what flavor of connect is coming in, and set
the TNC to that flavor. It could then assemble packets and feed a
BBS program some sort of Host or KISS mode information.

With XT systems going for $100, it may be possible to dedicate such
a box to doing this function. Use the XT to do the external
codework that the KAM, now used only as a modem, is feeding it.
The XT would then feed the BBS the resultant frames.

Finding someone dedicated to writing such a function is the only
remaining obstacle.

73,
Steve
     NO8M@NO8M.#NEOH.OH.USA.NA
     ag807@cleveland.freenet.edu

/EX
--
73,
Steve
          ag807@cleveland.freenet.edu
          NO8M@NO8M.#NEOH.OH.USA.NA

Date: Wed, 20 Apr 1994 22:22:18 GMT
From: ihnp4.ucsd.edu!swrinde!gatech!howland.reston.ans.net!europa.eng.gtefsd.com!
news.umbc.edu!eff!news.kei.com!ub!penny!jane!hansen@network.ucsd.edu
Subject: TAPR Radio
To: ham-digital@ucsd.edu

Bruce Langos (blangos@wtcp.DaytonOH.NCR.COM) wrote:

: In 1989 the TAPR folks showed a prototype of a 25 watt Radio with
: integrated packet(TNC). This was shown at the Dayton Hamfest. Was it
: every brought to market? I have been out of packet for many years
: and want to get active again.

No, the project was dropped.

Date: 21 Apr 94 16:29:43 GMT
From: dog.ee.lbl.gov!agate!iat.holonet.net!vectorbd!jpll@ucbvax.berkeley.edu
Subject: TI 320C26 DSP Eval Kit
To: ham-digital@ucsd.edu

Felton Mitchell (fmitch@netcom.com) wrote:
: Jim Lill (jpll@vectorbd.com) wrote:
: : Has anybody done anything with TI's $99 320C26 Evaluation Kit?

: who has the kits? anybody have an 800 number where they can be obtained???

most electronic distributors: Arrow, Marshall, etc.

--
- -
-Jim Lill-   Vector Board BBS
jpll@vectorbd.com   716-544-1863/2645
wa2zkd@wb2psi.#wny.ny.usa.na   GEnie: ZKD

Date: 22 Apr 94 13:15:10 GMT
From: news-mail-gateway@ucsd.edu
Subject: Unsubscribe
To: ham-digital@ucsd.edu

Unsubscribe

Date: Thu, 21 Apr 1994 15:30:46 GMT
From: swrinde!emory!europa.eng.gtefsd.com!howland.reston.ans.net!math.ohio-
state.edu!cyber2.cyberstore.ca!nntp.cs.ubc.ca!alberta!quartz.ucs.ualberta.ca!
tribune.usask.ca!kakwa.ucs.@ihnp4.ucsd.edu
Subject: WEFAX
To: ham-digital@ucsd.edu

dts@world.std.com (Daniel T Senie) writes:
>   I have heard of people using their HF receivers, to receive the

> WEFAX signal from Spacenet3 T17. Is anyone out their doing this, or
> could tell me how it is done?

The way this is done is by feeding the baseband video output from
the satellite receiver into the HF receiver. Note that the HF rcvr
must be set for FM mode. By tuning across the video signal in the HF
range you will find all kinds of specialty narrowband signals, including
RTTY and WEFAX. I'm not sure of the exact frequency on Spacenet3 but
perhaps someone else out there does. Try all the transponders, though.
You'd be amazed at what you might come up with.

John Boudreau
ve8ev@inukshuk.gov.nt.ca

Date: 21 Apr 1994 08:05:13 -0500
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!not-for-mail@network.ucsd.edu
Subject: Who is ordering GPS receivers from Motorola?
To: ham-digital@ucsd.edu

Greetings all:

A fellow Amateur Radio colleague (W8RIK) asked me to post this request for
him .

He heard over the Internet that another ham is making a large
purchase of GPS receivers (for GPS/APRRS experiments) from
Motorola. Does anyone know this Hams name or how to contact him?

He would like to combine the orders for possible savings.
If you have information please contact:

Podniesinski@SC3101.Med.Buffalo.Edu

Thanks!
N2JRQ

Date: Wed, 20 Apr 1994 21:30:31 GMT
From: ihnp4.ucsd.edu!library.ucla.edu!csulb.edu!csus.edu!netcom.com!
parker@network.ucsd.edu
To: ham-digital@ucsd.edu

References <CoIw0u.2KJ@alsys.com>, <parkerCoJ5z5.67A@netcom.com>,
<pineappCoKCL1.L6F@netcom.com>º
Subject : Re: Internet > Packet gateways??

I don't have any idea why it is freezing up. I tried it, and it did the same
for me. The only other thing that I can think of is going through the front
door and giving the command to go into conference mode. I don't know how to
do that on that particular system though. If it's that important try leaving
a message to the operator to see what's wrong with it.

```
--
----------------------------------------------------------------------
| Andrew Parker     |        KD6TGM        |      parker@netcom.com  |
|---------------------------------------------------------------------
| This signature is extra lean. It will not contain more than 15% fat.|
----------------------------------------------------------------------
```